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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09:846,364	05.02.2001	Kazuya Ishiwata	35.C15334	8273

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

GUHARAY, KARABI

ART UNIT	PAPER NUMBER
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2879

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/846,364

Applicant(s)

ISHIWATA ET AL.

Examiner

Karabi Guharay

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 8-14 and 18-29 is/are rejected.
- 7) ☒ Claim(s) 5-7 and 15-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6, & 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Amendment B, filed on 6 March 2003 has been considered and entered.

IDS (Paper # 6) filed on 8/24/2001 and IDS (paper # 8), filed on 3/6/2003 has been entered. IDS (#6) is duplicate of IDS (# 8). The signed copy of IDS (# 8) and the duplicate paper # 6 is enclosed.

Amendment of title has been acknowledged.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 8-14, 18-29, are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshioka et al. (US 5872541, hereinafter Yoshioka).

Regarding claims 1, and 2, Yoshioka discloses a substrate structure (Fig 8) which is a precursor to an electron source, on which an electron emitting device is to be disposed, the substrate structure comprising a substrate (4) and an insulating material (11) on a surface of a substrate (4) wherein the insulating material layer (11) has a plurality of partially exposed metal oxide particles (9) on its surface and a plurality of enclosed metal oxide particles (Fig 11-5, lines 44 of column 8-line 47 of column 9).

Regarding claims 3, and 4, Yoshioka discloses that the plurality of enclosed metal oxide particles and a plurality of partially exposed metal oxide particle form a metal oxide particle layer in the insulating layer (11, see Fig 11(5)).

Regarding claim 8, Yoshioka discloses substrate is made of glass, which inherently contains Na (line 62 of column 5).

Regarding claim 9, Yoshioka discloses that the insulating layer (11) is a SiO₂ (line 62 of column 5, and line 65-67 of column 10), which is a sodium-blocking layer.

Regarding claim 10, Yoshioka discloses insulating layer being silicon dioxide layer having SnO₂ or other conductive particles dispersed in it (lines 65 of column 8-line 4 of column 9), thus forming an anti-static layer.

Regarding claims 11, and 12, Yoshioka discloses a substrate structure comprising a substrate provided with a SiO₂ layer on a surface of a substrate ((line 62 of column 5, and line 65-67 of column 10) wherein the SiO₂ has a plurality of partially exposed metal oxide particles (9) on its surface and a plurality of the enclosed metal oxide particles (see Fig 11-5, and Fig 12).

Regarding claims 13, and 14, Yoshioka discloses that the plurality of enclosed metal oxide particles and a plurality of partially exposed metal oxide particle form a metal oxide particle layer in the SiO₂ layer (11, see Fig 12).

Claim 18 recites essentially the same limitations of claim 8. Thus claim 18 is rejected as claim 8 (see Rejection of claim 8).

Claim 19 recites essentially the same limitations of claim 9. Thus claim 19 is rejected as claim 9 (see Rejection of claim 9).

Claim 20 recites essentially the same limitations of claim 10. Thus claim 20 is rejected as claim 10 (see Rejection of claim 10).

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Regarding claim 21, Yoshioka discloses that the metal oxide particles (line 3 of column 9) are electron conductive oxide particle.

Regarding claim 22, Yoshioka discloses that the metal oxide particles are particles of an oxide of a metal selected from the following metals: Fe, Ni, Cu, Pd, Ir, In, Sn, Sb, Re (line 3 of column 9).

Regarding claim 23, Yoshioka discloses that the metal oxide particles are SiO₂ particles (line 1-3 of column 31).

Regarding claim 24, Yoshioka discloses an electron source comprising a substrate structure and electron emitting device arranged on the substrate structure as claimed in claim 1 (see Fig 8, and rejection of claim 1).

Regarding claim 25, Yoshioka discloses an electroconductive film (Pd film 3a of Fig 36) containing electron-emitting region (lines 39-52 of column 31).

Regarding claim 26, Yoshioka discloses a plurality of electron-emitting devices arranged in a matrix wiring composed of a plurality of row directional wirings and a plurality of column-directional wirings (see Fig 39A-D).

Regarding claim 27, and 29, Yoshioka discloses an image display apparatus comprising an envelope, an electron-emitting device arrangement in a matrix wiring composed of plurality of row directional wirings and a plurality of column directional wirings adapted to display images through the application of electrons from the electron-emitting device where the substrate is as claimed in claim 1, 2, 11, 12 (see Fig 39A-D, lines 36 of column 32-32 of column 33).

Claim 28 recites essentially the same limitations of claim 25. Thus claim 28 is rejected as claim 25 (see Rejection of claim 25).

Allowable Subject Matter

Claim 5-7, and 15-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record neither shows nor suggests an electron source forming substrate where average particle size of the partially exposed metal oxide particle is larger than the particle size of enclosed metal oxide particles.

Response to Arguments

Applicant's arguments filed on 6 March 2003, have been fully considered but they are not persuasive. As stated on page 11 of Remarks, filed on March 6, 2003, applicant admits that Yoshioka et al. disclose a substrate on which an insulating layer is provided wherein metal oxide particles are partially exposed on its surface.

Furthermore as claimed in amended claims 1, 2, 11, and 12, the substrate structure of Yoshika is a precursor to an electron source, on which electron emitting device is to be disposed.

Applicant contends that the fine particles of Yoshioka partially form an electron emitting area. However, it is not relevant since it is not matter of concern how the particular claimed element is functioning in the device. As long as the prior art has all the structural elements claims are anticipated by the prior art.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (703) 305-1971. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (703) 305-4794. The fax phone number for the organization is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Karabi Guharay
Patent Examiner
Art Unit 2879


NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800